# Piece

- piece: Stringpos: pair<int,int>isKing: bool
- + Piece(String, int, int)
- + getPos(): pair<int,int>
- + setPos(int, int): void
- + getPiece(): String
- + setPiece(String): void
- + setKing(bool): void
- + getKingStatus(): bool
- + swapPos(pair<int,int>): void

### Node

- + data: int
- + left: Node \*
- + right: Node \*

# Player

- name: StringourPiece: Stringboard: Board \*
- + Player(String)
- + setBoard(Board \*): void + setPiece(String): void
- + getPiece(): String
- + getName(): String
- + makeMove(map<string,int> &, Tree \*): void

#### **Board**

- DIM: const int
- board: list<list<Piece \*>>
- fillBrd(): void
- isVldSquare(int, int): bool
- putPieces(): void
- canMove(String, pair<int,int>): bool
- canMoveKing(pair<int,int>): bool
- canCapture(String, pair<int,int>, pair<int,int> &, bool &): bool
- canCaptWithKng(String, pair<int,int>, pair<int,int> &, bool &): bool
- capture(String, pair<int,int>, pair<int,int>, pair<int,int>): void
- dsplyKings(String): void
- swap(pair<int,int> &, pair<int,int> &): void
- partition(vector<pair<int,int>> &, int, int): int
- quickSort(vector<pair<int,int>> &, int, int): void
- willForfeit(String): void
- + Board()
- + ~Board()
- + dsplyBrd(): void
- + jumpTo(int, int): list<Piece \*>::iterator
- + move(String, map<String,int> &, Tree \*)

#### Tree

- root: Node \*
- newNode(int): Node \*
- prntPre(Nodé \*): void
- prntln(Node \*): void
- prntPost(Node \*): void
- insert(Node \*&,int): void
- destroy(Node \*&): void
- height(Node \*): int
- delNode(Node \*&,int): void
- findMin(Node \*): Node \*
- IftRot(Node \*&): void
- rghtRot(Node \*&): void
- IftRghtRot(Node \*\*&): void
- rghtLftRot(Node \*&): void
- balance(Node \*&): void
- + Tree()
- + Tree(int)
- + ~Tree()
- + prntPre(): void
- + prntln(): void
- + prntPost(): void
- + prntLvl(): void
- + empty(): bool
- + insert(int): void
- + fill(int): void
- + height(): int
- + delNode(int): void
- + findMin(): Node \*